

THE VOLTA BUREAU

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AMERICAN FOUNDATION
FOR THE BLIND INC.

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THE VOLTA BUREAU

For the Increase and Diffusion of Knowledge Relating to the Deaf

BY FRED DELAND, LIBRARIAN

(Reprinted from The Volta Review, December, 1912)

I. ITS AIM AND PURPOSE

THROUGH the generosity of Dr. Alexander Graham Bell, the inventor of the electric speaking-telephone, and of his father, the late Prof. Alexander Melville Bell, the well-known authority on phonetics and the inventor of visible speech, the deaf enjoy all the advantages inherent in a well-endowed institution, located at 1601-1603 35th street, corner of Volta Place, N. W., Washington, D. C., and known the world over as "The Volta Bureau for the Increase and Diffusion of Knowledge Relating to the Deaf."

The work in which the Volta Bureau is engaged had its inception in 1880-81 in the Volta Laboratory Association's experimental laboratory, which was located in a little brick building formerly stand-

ing near the present site of the Church of the Covenant. Later the Association dissolved, and Dr. Bell sold ground and building, and in 1887 moved his personal laboratory equipment to the two-story brick building, No. 3414 Q street, now Volta Place, Washington.

During this period the Hon. John Hitz, formerly Consul General to the United States from Switzerland, was assisting Dr. Bell in certain researches relating to the deaf, that necessitated searching through many pamphlets, periodicals, school reports, books, etc. Naturally they were buying or securing a copy of every available publication that in any way related to the deaf, to the so-called "deaf and dumb," or to the blind-deaf, no matter in what part of the world it was published. There was also a capable as-

sistant compiling the ancestry of all families in the New England States into which two or more deaf children had been born, and obtaining histories of all the New England towns that contained genealogical material serviceable in these researches.

Thus it soon came about that a wealth of material relating to the deaf was filed in the laboratory, including not only publications that represented quite an investment, but periodicals and school reports from all over the world. Thus when certain research work was completed the question arose, "What shall we do with this literature?" Shall this collection form the nucleus of a permanent library of literature for the deaf?

Dr. Bell, deciding that the collection was worthy of preservation, at once provided the necessary funds that enabled John Hitz to take the preliminary steps toward founding a permanent library for the deaf, and as the large room in which he carried on his researches relating to the deaf was a part of the Volta Laboratory, that room was called the Volta Bureau, and John Hitz "Superintendent of the Volta Bureau."

It was also realized that much good might be accomplished in modifying popular beliefs concerning the deaf by reprinting and generously distributing certain contributions to knowledge that might serve to dispel erroneous ideas relative to methods of education; so the Volta Bureau brought out the first of its "Reprints of Useful Knowledge," and forwarded copies to schools for the deaf and to public and other libraries in all parts of the world. In the aggregate probably about 90,000 copies of all its reprints have been sent out, to say nothing of about 10,000 copies of articles in periodicals which it has distributed gratuitously to libraries, where they would be available to the general public. A few reprints were also sold at a nominal price to individuals, while others were never placed on sale, the limited editions being distributed as widely as circumstances would permit.

In addition to about 100 reprints and

pamphlet publications, the Volta Bureau has also published at its own expense and distributed among public institutions a number of valuable historical, statistical, and educational works, including Dr. E. A. Fay's large work on Marriages of the Deaf (the Bureau paying the expenses incurred in gathering the material); the Histories of American Schools for the Deaf, in three volumes; the Helen Keller Souvenirs, "Dumb No Longer," etc.

The records show that during the four years, 1896-1899, nearly 35,000 copies of reprints, publications, circulars, and clippings were gratuitously sent out by the Volta Bureau that the public might become better acquainted with the work being done to promote the welfare of little deaf children. In December, 1911, through the courtesy of the Smithsonian Institution, it presented to the National Bureau for Promoting the General Welfare of the Deaf, London, England, a total of nineteen (19) bound volumes and four hundred and twenty-five (425) separate unbound Reports of Schools for the Deaf; sixty-five (65) bound publications and two hundred and thirty-two (232) pamphlets, etc., unbound; also a complete file of the Association Review and the VOLTA REVIEW. On different occasions the Volta Bureau has also presented to schools for the deaf, so unfortunate as to lose their libraries by fire, as complete a set of its own and its allied publications as it could spare.

The Volta Bureau is also a clearing-house for exchanges between American and foreign schools of reports, statistics, and educational literature relating to the deaf. Thus thousands of packages have been reconsigned to their proper destinations from the Volta Bureau. During the summer of 1904, through the courtesy of the International Bureau of Exchanges connected with the Smithsonian Institution, the Volta Bureau sent abroad a carefully selected assortment of four thousand eight hundred and three (4,803) publications relating to the deaf to one thousand three hundred and eight (1,308) institutions, libraries, and specialists.



Alex. Melville Bell

The same year, through the courtesy of the United States Commissioner of Education, the Volta Bureau sent to one thousand four hundred and seventy-five (1,475) public and school libraries and other public institutions, and to superintendents, directors, and trustees of schools for the deaf a total of two thousand eight hundred and five (2,805) publications.

The Volta Bureau was awarded a gold medal "for the increase and diffusion of knowledge relating to the deaf" at the Universal Exposition held in St. Louis, in 1904, to commemorate the acquisition of the Louisiana Territory, and also at

the Jamestown Tercentennial Exposition, on Hampton Roads, Virginia, in 1907, in commemoration of the first permanent English settlement in America.

In the library of the Volta Bureau are files of more than 200 domestic and foreign periodicals devoted to the deaf. Some of these suspended publication many years ago and copies are rarely found elsewhere. The librarian is earnestly endeavoring to secure complete files of every publication relating to the deaf that has ever appeared, no matter in what part of the world, or whether issued by a school or institution, or as a private venture and for private circu-

lation, or as a public periodical, to the end that it may be truly said that "If it relates to the deaf, it is in the Volta Bureau." Though the Volta Bureau has thousands of books, pamphlets, periodicals, manuscripts, classified clippings, genealogical records, etc., it is constantly seeking more. It desires to have at hand all information possibly procurable, properly classified and card-indexed, to the end that it may promptly and accurately answer any reasonable question relating to the deaf that any person may ask.

In the library are also the following:

(1) A card catalogue of more than 50,000 deaf children admitted into special schools for the deaf in the United States during the 19th century (1817-1900), with full details concerning them taken from the private records of the schools.

(2) Voluminous MSS. containing authentic information concerning 4,471 marriages of persons deaf from childhood (deaf and dumb), supplied by the families themselves, with details concerning the parents and other ancestors and the brothers and sisters and children of the partners in marriage. Many of the details have been transferred to cards to facilitate the preparation of statistical tables.

(3) The special schedules of the Deaf used by the Census Office in 1900, containing detailed information concerning 89,287 persons returned as deaf or "deaf and dumb" in the 12th Census of the United States. The information is authentic because supplied by the deaf persons themselves. The perforated cards used by the Census Office in tabulating the returns are also preserved in the Volta Bureau.

(4) The special schedules of the blind used by the Census Office in 1900, containing detailed information concerning 64,763 persons returned as blind in the 12th Census of the United States. The information is authentic because supplied by the blind persons themselves. The perforated cards used by the Census Office in tabulating the returns are also preserved in the Volta Bureau.

The cost of tabulating all this census material was borne by the Volta Bureau.

The above-mentioned material (1 to 4), being of a confidential nature, cannot be thrown open to the general public, but the Volta Bureau welcomes *bona fide* investigators, and will give them free access to the material under suitable restrictions relating to the use of names, etc.

Among the more important manuscripts are Dr. Bell's "Ancestry of the New England Deaf" and his "Genealogy of Martha's Vineyard," studies made in investigating the laws of heredity as bearing upon deafness.

From Dr. Bell's point of view there is no more fascinating research work than that relating to the marriages of the deaf with the deaf. And he has presented to the Volta Bureau a set of nearly three hundred charts forming a graphical study of marriages of deaf persons which have resulted in deaf offspring, showing the ancestors and descendants of the persons married, and their brothers and sisters, together with their deaf relatives in collateral branches. These charts constitute a special examination of the histories of three hundred families in which deafness has appeared in two, three, four, or five successive generations, and contain all essential details interesting to students of heredity. Some of these charts were shown at the International Otological Congress held in Boston, in August, 1912, by Dr. G. Hudson-Makuen.

In addition to the thousands of publications which the Volta Bureau possesses by right of purchase or of presentation, it also carefully guards valuable historical and statistical records relating to the deaf intrusted to its care for permanent preservation. Some of these are available to all who are interested; others are of a confidential nature and open only to men whose past records guarantee the character of their researches. And its ability to properly care for and protect manuscripts and documents of this character has won recognition and will lead to the Volta Bureau becoming the custodian of

records of inestimable value to future generations. Recently it learned that one eminent worker in behalf of the deaf has provided in his will that when he passes away his splendid collection of literature relating to the deaf shall be deposited in the Volta Bureau for the benefit of fellow-workers in a good cause. Others are now sending to the Volta Bureau old pamphlets, periodicals, and reports relating to the deaf, knowing that the Bureau will redistribute the duplicates among public institutions.

Needless to say, the position which the Volta Bureau occupies is a unique one and one that entails grave responsibility; for the information which it gives out must be not only accurate and up-to-date, but excellent judgment must be exercised in issuing any statement that may in any way reflect upon a family history.

If the original plans could be carried out, no doubt the work of the Volta Bureau would also embrace to a greater extent than here outlined the following functions:

First. It would seek to secure the co-operation of the highest otological and laryngological organizations and specialists throughout the world with a view to devising, primarily, preventive measures; and, secondarily, means of alleviating and curing deafness.

In thus stimulating research in all parts of the world, the brightest minds would be focused upon the primary aim, and thus a world's prophylactic clinic would be founded, the results being given to the world in the leading languages.

Second. The Volta Bureau would more fully than in the past collect, reprint, and distribute information concerning all methods of instructing the totally or partially deaf, or the blind-deaf, from infancy to old age, no matter where or in what language the text originally appeared. It would secure, tabulate, and distribute statistics graphically illustrating direct and comparative results along any and all lines of research relating in any way to the welfare of the deaf.

Third. As a bureau of information, its field of service is world-wide, and the

experience of the years has clearly demonstrated the need of extending and broadening this function. Every day some one in some part of the world, seeking accurate information relating to the deaf, appeals to the Volta Bureau for answers to varied inquiries. Among the many requests received in one week were the following:

"Please tell me where I can secure a good teacher for my little boy, whom the doctor says is totally deaf."

"One of my patients has a little girl baby evidently born deaf. Please send such literature as will aid in starting the mother along the right lines to insure speech to the child."

"I find I am growing very hard-of-hearing. Is it possible for me to learn lip-reading? Send me some helpful literature."

"Has the Bureau the material from which the per capita cost of pupils in the principal State institutions can be obtained? What would be the cost of the clerical work involved?"

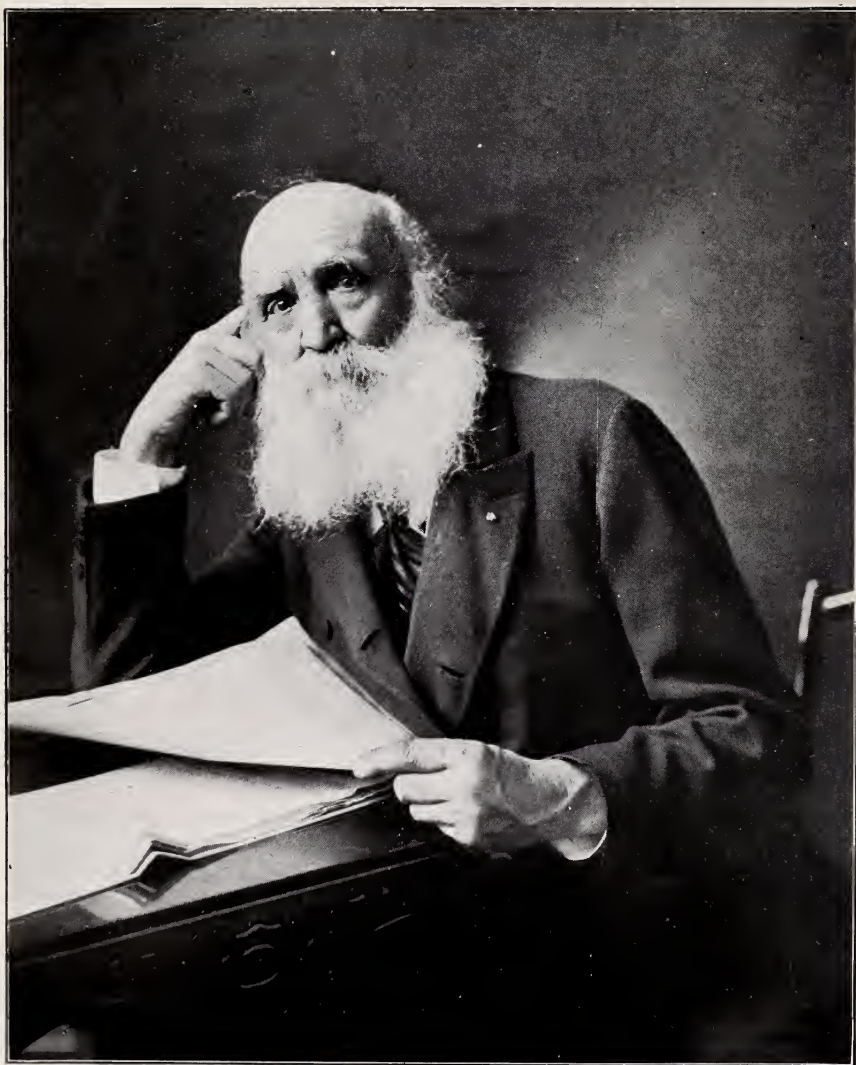
"How best shall we go to work to secure a day school for the deaf? There are seven little deaf children, perhaps more, in our town, and we feel that they should be taught at home."

"Please tell me how to start a 'Parents' Association,' whose members will aid their deaf children to acquire more rapidly facility in speech and speech-reading."

"I have an essay to write about Helen Keller. Please tell me all about her, and send some of the pamphlets you are giving away."

"Where is the best normal training school for students desiring to become teachers of the deaf?"

"Of nine children born to hearing first cousins, seven were born deaf, the other two hearing. Will the children of these hearing children be born deaf, and the children of these deaf children be with hearing power unimpaired? In other words, does deafness skip a generation and then reappear? If so, what is the law, and in how far does it hold good?"



John Quincy

"In what line of work can an intelligent deaf girl earn a good living wage?"

"Must have a first-class oral teacher at once. Telegraph names of three or four available teachers, with details."

These few questions portray in some small degree the varied character of the inquiries that daily come to the Volta Bureau—questions that daily illustrate the wisdom of maintaining so serviceable a source of information toward which physicians, clergymen, teachers, parents, and students may turn for information concerning whatever may promote the educational welfare of little deaf children during the impressionable, absorptive years of childhood.

The Bureau is also the Mecca toward which the adult deaf and the hard-of-hearing turn for advice concerning the efficiency of lip-reading, in the hope of ameliorating the affliction of gradually increasing deafness.

The Volta Bureau maintains a Teachers' Information Agency and keeps on file a list of teachers seeking appointments, and a list of superintendents, principals, and parents desiring teachers for deaf children.

In brief, the Volta Bureau's aim and purpose is to become the one place in all the world where any one may propound a reasonable question relating to deafness and the deaf with a good probability of its being accurately and promptly answered.

In other words, to be the world's information bureau in all matters relating to the educational welfare of the deaf.

II. ITS SUPERINTENDENTS

As already stated, John Hitz was the first Superintendent of the Volta Bureau. From the beginning he held that the Volta Bureau should be conducted along scientific rather than pedagogic lines, "its methods rather those of the scientist than of the schoolmaster;" that while it would impartially present the views and theories of others, it should hold none, advocate none, indorse none. Primarily its true function was to gather the literature of the world that related to the deaf and the blind-deaf, and to collect and corre-

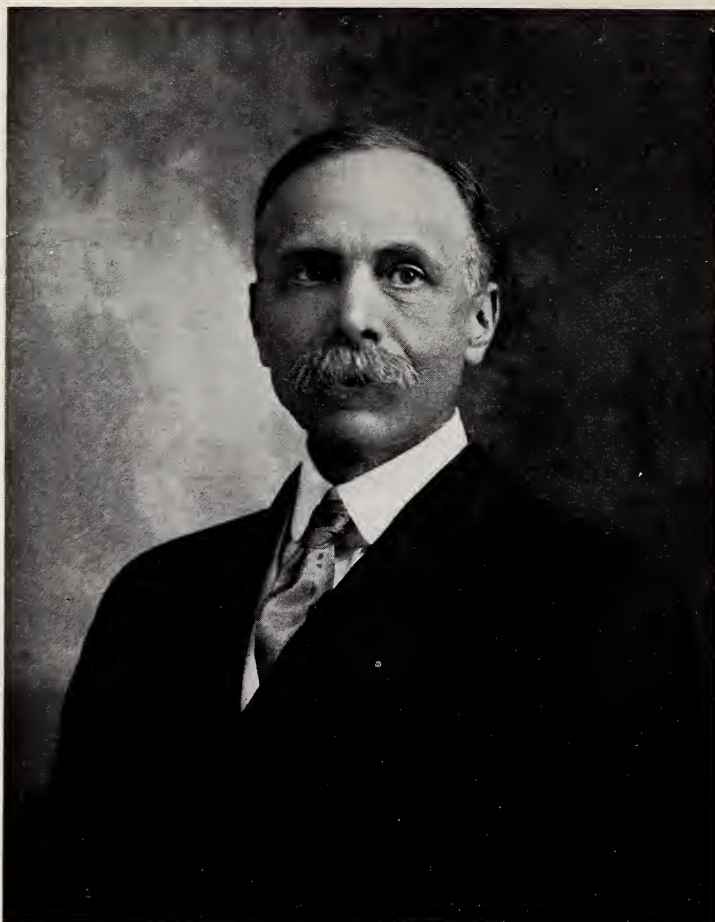
late and disseminate facts, letting the recipients analyze and assimilate the facts most helpful to the cause they served.

He believed in gathering facts by the statistical method on properly prepared schedules, and held that only through the fearless publication of facts, without regard to the influence these facts might have in modifying methods, would the continued existence of the Bureau be justified, aside from serving as a large library or general depository of literature relating to the deaf. Furthermore, that the volume of its serviceability must necessarily depend upon the impartial, unbiased character of all its undertakings.

This impartiality was appreciated the more by those who knew that personally John Hitz was a strong advocate of oralism, that unofficially he did what he could to promote the teaching of speech to little deaf children in the impressionable language-learning years that precede the school age, and that he refused to allow any publication to carry his name as an associate editor, or to claim to be the organ of the Bureau, for fear such action might narrow its field of usefulness.

Thus it came about that under the superintendency of John Hitz the Volta Bureau established cordial relations with eminent educators of the deaf in all parts of the world, regardless of the methods used in instructing pupils, winning their confidence and esteem through its impartial breadth of view and leading them to perceive that its mission was world-wide.

John Hitz remained Superintendent of the Volta Bureau from its inception to the day of his sudden death, March 26, 1908, while escorting Helen Keller from the Union Station. On March 30 his remains were interred in the Congressional Cemetery. Miss Keller attended the funeral services held in the Volta Bureau, and paid a glowing tribute to her departed "foster father," as she called Mr. Hitz, saying in part: "Only those who knew John Hitz can realize what his friendship meant to me. . . . I will try to impart to others the sense that



FRANK W. BOOTH

a wise, good man has lived among us like a benediction. . . . The deaf and the blind have lost more than they can ever know in losing his sympathy and service. Would that all workers for these two classes were like him — disinterested, broad in their views, more anxious for the good of those they undertake to help than for the advocacy of theories."

At the annual meeting of the American Association to Promote the Teaching of Speech to the Deaf, held in Rochester, N. Y., on May 6, 1908, the following resolutions were passed and recorded:

Whereas, the death of Hon. John Hitz, Superintendent of the Volta Bureau, Washing-

ton, D. C., having taken from us a charter member of the Association, and

Whereas, his work for many years having been entirely sympathetic and closely co-operative with the aims and purposes of the Association, be it

Resolved, That it is our feeling that in his death our Association and the cause of the deaf in general have sustained a distinct and irreparable loss; also that we here give expression to our high appreciation of his character and personal worth; and be it further

Resolved, That in the Volta Bureau for the increase and diffusion of knowledge relating to the deaf, we recognize an institution of broadest philanthropy and of large and perpetual usefulness; and that we further recognize the debt we owe, and that the world will owe for all time, to its first Superintendent for the wise thought of its creation and the

far-seeing, far-reaching plan of its work.

Resolved, That these resolutions be entered upon the minutes; that a copy of them be forwarded to the immediate family; and that they be published in the Association Review.

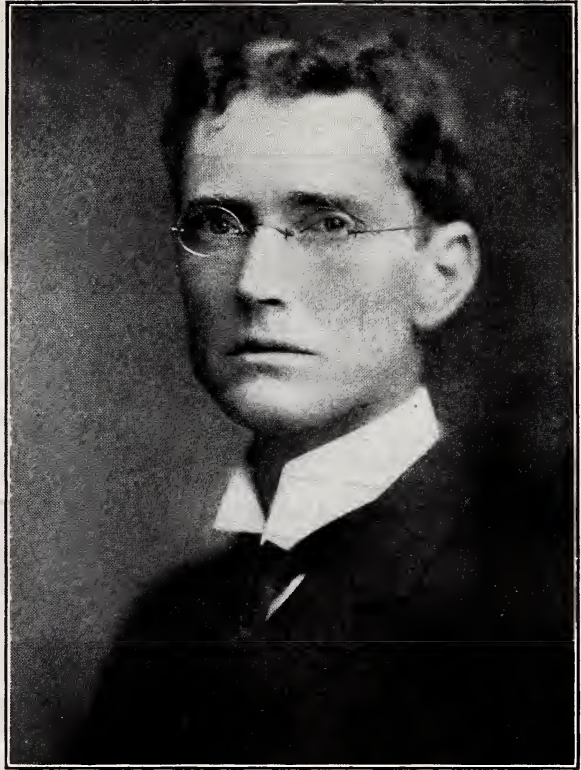
CAROLINE A. YALE,
E. A. GRUVER,
F. W. BOOTH,
Committee.

On March 26, 1908, the day following the sudden death of John Hitz, Mr. Frank W. Booth accepted the appointment of Acting Superintendent of the Volta Bureau, tendered to him by the trustees. Later he became the Superintendent, and remained in charge of the work until July 1, 1911, when his resignation became effective that he might accept the proffered superintendency of the Nebraska School for the Deaf, at Omaha.

Mr. Booth was peculiarly qualified to be at the head of the Volta Bureau, for not only was he a leader in the teaching of the deaf, an editorial writer of eminence in the literature of his profession, and during twelve years general secretary and treasurer of the American Association to Promote the Teaching of Speech to the Deaf, but his very wide acquaintance with teachers of the deaf, both in this country and in foreign lands, enabled him to perceive how best the Bureau could continue to promote the welfare of the deaf.

Following Mr. Booth's resignation, Dr. Harris Taylor, principal of the Institution for the Improved Instruction of Deaf-mutes of New York City, was requested to serve as superintendent of the Volta Bureau. This Dr. Taylor agreed to do for the honor conferred, but only "upon condition that there should be no other remuneration." Thus Dr. Taylor has generously filled the superintendency for a year and a half without compensation, while at the same time carrying on his professional work in New York city.

Teachers of the deaf hold Dr. Taylor



HARRIS TAYLOR

in high esteem, and turn to him for guidance, aid, advice, knowledge. He is one of their number; he came from the ranks, and he understands the difficulties that teachers necessarily face. It is Dr. Taylor's desire that every teacher of hearing children, as well as every teacher of deaf children, should realize that the services of the Volta Bureau are at their command in whatever will promote the intellectual welfare of deaf children, and that it is up to those teachers to help, through a utilization of its services, in making the Bureau a more prominent and profitable part of the world's educational equipment, to the end that the greatest possible returns in welfare work may be secured from the generous gifts of the donors, whose sole thoughts have been to aid in restoring to little deaf children their rightful heritage of speech, and to enable them to gain the knowledge

that will insure an ability to successfully compete with the hearing in industrial, commercial, and professional work.

III. THE SOURCE OF ITS FINANCES

The Volta Bureau was founded and maintained during nearly twenty-five years by a private individual—Alexander Graham Bell—and then presented, together with its maintenance fund, to the American Association to Promote the Teaching of Speech to the Deaf.

The manner in which this maintenance fund was created and the steps leading thereto are believed to be of sufficient interest to be presented here in detail.

While striving to improve Bell's telephone transmitter, Thomas A. Edison outlined to his co-laborer, Mr. E. H. Johnson, the possibility of devising a telephone repeater that would prove as useful on telephone circuits as the relay is on telegraph lines. Some months later, while lecturing in Buffalo on "the musical telephone," Mr. Johnson casually referred to the proposed telephone repeater that would mechanically record a telephone message and then relay it across the continent if so desired. The next morning the Buffalo papers gave more space to "the talking machine reproducing articulate speech with all the perfection of the human voice" than to the lecture or the musical entertainment. The following evening Mr. Johnson lectured in Rochester, and again the newspapers dilated on the merits of "the talking machine," notwithstanding that the house was crowded to learn about "the musical telephone" and listen to strains of music conveyed from some distant city, or hear the thrilling notes of some charming singer entertaining an audience many miles away.

It would be interesting to learn the names of the newspaper men in Buffalo and Rochester whose brilliant foresight and imagination in 1877 leaped far in advance of the inventor's fertile mind, and not only christened the unmaterialized invention, but so forcibly outlined its commercial value and possibilities as

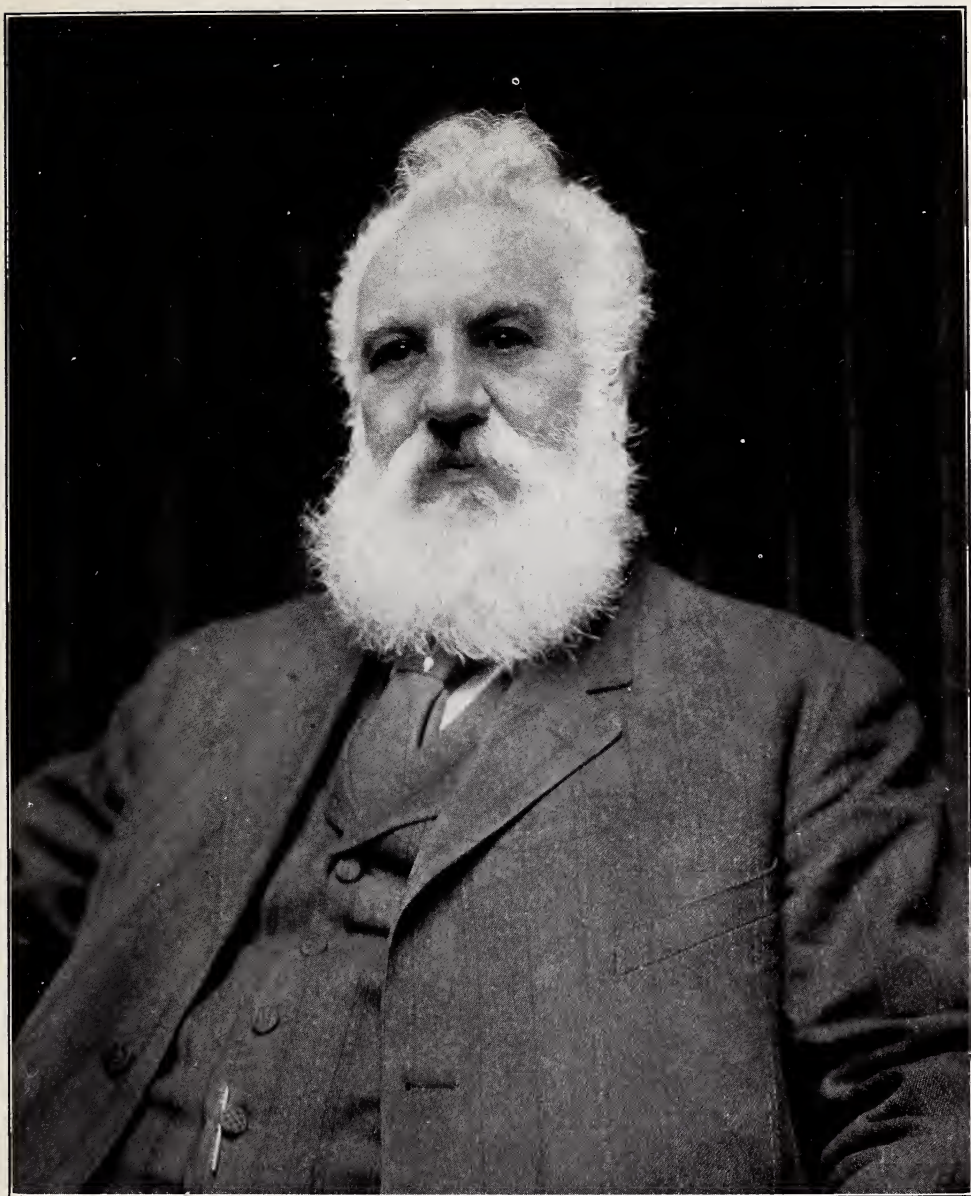
to lead Mr. Johnson to abandon a very profitable lecture tour, cancel a dozen engagements, hurry back to Mr. Edison's laboratory, and tell what the newspaper men thought about the invention.

After reading the newspaper clippings, Mr. Edison said: "They are right. That is what it is—a talking machine." Then Edison and Johnson started to put in tangible form that which the newspaper fraternity the country over was giving the widest free advertising any invention ever received. Later Mr. Johnson said: "Within twenty-four hours we had an instrument consisting of a little revolving cylinder turned with a crank, and a simple diaphragm with needle attachment. We wrapped a sheet of tinfoil around the cylinder, and then, while turning the crank, we spoke into the transmitting diaphragm the original phonographic sentence: 'Mary had a little lamb.' Then we reversed the action to see if it would reproduce our speech, which it did to our satisfaction. That was the original phonograph, to my mind the greatest thing Mr. Edison ever did."

A little later Mr. Edison became infatuated with the fascinating problems of incandescent electric lighting, and many of his earlier inventions were neglected or practically abandoned. Among the number was the phonograph, which was left in a crude and nearly useless condition for practical commercial work, and while a patent had been granted it did not prove of value.

On July 28, 1880, "the commissioners of the Volta Prize of the French Academy notified Alexander Graham Bell that they had awarded to him" this prize of 50,000 francs, destined for the inventor of the best application of electricity, as shown in the methods and means for the electric transmission of speech over long distances, the magneto-electric speaking telephone being considered the most serviceable electrical invention devised during the preceding fifteen years.

When Dr. Bell received this prize of \$10,000 he determined to let it form the nucleus of a fund to promote research



ALEXANDER GRAHAM BELL

and invention. His first step in creating this fund was to form an organization, which he called the Volta Laboratory Association. The \$10,000 received from France was gradually expended in equipping the laboratory and in securing material, supplies, etc.

The three members of the Volta Association were gentlemen interested in research work of an unremunerative nature. Dr. Chichester A. Bell was interested in organic chemistry, and during many years was demonstrator of chemistry at University College, London,

England. He desired to conduct certain experiments in organic chemistry, in Washington. Mr. Sumner Tainter was an expert maker of optical instruments. Being a skilled mechanic, he had assisted Dr. Bell in the development of the photophone, an instrument devised to transmit speech upon a beam of light. Mr. Tainter desired to carry on experiments relating to optical apparatus, and he supervised the work and the staff of skilled workmen employed in the Volta laboratory. Alexander Graham Bell, though known the world over as the inventor of the magneto-electric speaking telephone, was particularly interested in researches relating to the inheritance of deafness, and desired to carry on researches relating to the ancestry of the deaf and the results of the marriages of the deaf with one another.

The members agreed that the working capital of the Association (the Volta Prize) was to be utilized to support these various lines of investigation; but, as each line was unremunerative, it was proposed that the three associates should concentrate a portion of time and effort upon some one line of research or invention that gave promise of producing financial profit, with the object of creating a permanent fund that might be utilized to promote various scientific researches.

The members further agreed that any joint invention that gave promise of possessing commercial value was to be patented and the patents sold. Then the proceeds of the sale were to be divided into four parts, one for each of the three associates, and the fourth to replace and augment the Volta Prize.

In searching for a promising line of investigation the members perceived the possibilities of commercial profit in devising an improved form of Edison's phonograph, and the newspaper fraternity were responsible in a measure for this selection.

Early in 1874 Dr. Bell carried on a series of experiments with an improved form of phonautograph devised by Mr. Charles A. Morey, in which vowel

sounds were sung to their various pitches and their tracings preserved for study and comparison. But the curves traced by the stylus were not sufficiently marked to enable the vowels to be certainly identified. Thus Dr. Bell welcomed the appearance of Edison's phonograph in 1877-1878 as a means for securing records of minute phonetical distinctions, but in some respects the results were disappointing, and the imperfect character of the records led him to perceive how serviceable a perfected phonograph might prove.

Careful experiments showed that the Edison phonograph failed in satisfactorily reproducing sounds owing to imperfect indentations due to the stylus crowding or crumpling the tinfoil then forming the receiving cylinder. The Association substituted a flat wax plate for the tinfoil, and later wax cylinders, on the immovable surface of which the stylus engraved in clean-cut permanent form each and every sound of the human voice that impinged upon the diaphragm of the receiver, thus making it possible to secure an exact reproduction of the message so engraved whenever desired, this quality of permanence being absent in a tinfoil surface. Again, the instrument perfected in the Volta Laboratory consisted of three parts: the phonograph, or recording instrument; the phonogram or record so designed as to be transmissible in the mails, and the graphophone, or reproducer.

When the new instrument was perfected it was found that the entire working capital of the Volta Association, including the Volta Prize Fund of \$10,000, was exhausted, and thus there were no funds to cover cost of applying for patents. So a commercial corporation, the Volta Graphophone Company, was organized by residents of Washington to serve as a parent company, to hold the patents obtained in all countries, to organize local operating companies, and to grant royalty rights.

To secure the necessary capital the Volta Association then sold all its rights to the new company for a certain pro-

portion of the shares of the new organization, and these shares were equally divided among the three members and the Volta Fund, each receiving one-fourth. The Association then dissolved and the members went their several ways.

Having applied for and secured broad patents, and desiring the Volta phonograph to be recognized as an improved form of Edison's invention, it was offered to the Edison Company about as follows: Your phonograph has little or no commercial value. Ours is a practical machine covered by broad patents. But as Mr. Edison conceived the principle on which our machine is based and invented, the original phonograph, we suggest the formation of a new company, you to hold 49 per cent of the stock and we to hold 51 per cent so we can maintain control.

The Edison Company was favorably impressed with this generous offer. But when Mr. Edison learned of the negotiations he objected and devised certain improvements in his neglected phonograph, and an interview soon appeared in the daily papers concerning his improved instrument. Thus, owing to Mr. Edison's attitude, the Volta Graphophone Company was compelled to consider other plans for placing the instrument on the market.

About this time some official reporters of debates in the United States Senate and the House of Representatives and some members of the newspaper fraternity, including Mr. James O. Clephane, Mr. Andrew Devine, Mr. John H. White, Mr. Edward D. Easton, Mr. Edward V. Murphy, and others, became convinced of the commercial practicability of the phonograph-graphophone, through repeated practical demonstrations of its serviceability in recording and reproducing dictation, and as a result of their enthusiasm Mr. Stilson Hutchins, then publisher of the *Washington Post*, became interested. The outcome of the interest thus awakened by these successful tests was the organization of a second commercial corporation, the American Graphophone Company, to manufacture

and sell phonographs and graphophones, and in this company Mr. Edward D. Easton is and has been during many years the chief executive. The original plan of the company was to offer the instruments as a substitute for the shorthand amanuensis, letting the stylus record the dictation on the wax cylinder and then repeat it to the copyist. But when the public found that the world's richest music could be satisfactorily recorded and reproduced a larger business developed along that line, and the advertising on this one feature alone has involved the expenditure of millions of dollars to newspapers and periodicals. Surely a case of bread cast upon the waters returning.

Naturally patent litigation followed and the original Edison patent proved unimportant. Thus the patents granted to the Volta Graphophone Company became the underlying patents, covering all phonographs and graphophones using wax cylinders or wax records.

Meanwhile Dr. Bell sold the shares of the Volta Graphophone Company allotted to the Volta Prize Fund for the sum of \$100,000, and with this sum a fund was created that was thenceforth called the Volta Fund. In other words, this Volta Fund had its origin first in the Volta Prize of \$10,000, awarded for what was recently declared to be the most marvelous invention of many centuries, the electric-speaking telephone that eliminates time and distance in myriad transactions, and, second, in the graphophone, referred to in the court records as that "great invention which is the origin and basis of the enormous sound-recording industry of the present day, and which was the outcome of four years (1881-1885) experimental work on the part of the collaborators."

On June 27, 1887, Dr. Bell delivered to his father, Prof. Alexander Melville Bell, this Volta Fund, or, as it was later termed, the Volta Bureau Fund, to be held in trust and to be used in promoting the educational welfare of deaf children; more particularly "for the purpose of founding and maintaining a Bureau for

the increase and diffusion of knowledge relating to the deaf," in distributing desirable literature concerning the deaf, no matter in what language published, and in procuring whatever material or means would aid research or any other form of work undertaken for the purpose of promoting the intellectual welfare of deaf children.

Owing to his advanced age, Dr. Bell's father requested the appointment of his nephew, Mr. Charles J. Bell, the well-known Washington banker and financial authority, as joint trustee of this fund, which was done; and, following the death of Professor Bell, the trusteeship was turned over to the American Security & Trust Company of Washington, of which Mr. Charles J. Bell is president.

Following the death of John Hitz, Dr. Bell realized that the time had come when he must arrange for the permanent maintenance of the work of the Volta Bureau by a corporate concern rather than by an individual. Thus at the annual meeting of the American Association to Promote the Teaching of Speech to the Deaf, held in Rochester on May 6, 1908, Dr. Bell suggested that the Association take charge of the property and maintenance of the Bureau. The minutes read:

Dr. Bell said that it was his opinion that the Association and the Volta Bureau each lacked what the other possessed, and a union of the two would complete a whole and make the Association what it had been his ambition it should become, and such a union would make sure that the Speech Association and the Volta Bureau could never become antagonistic. He would like to hand over the whole property of the Volta Bureau to the Speech Association, suggesting no change in either the character of the Association or in that of the work done by the Volta Bureau, leaving it to the Directors of the Association to do as much or as little of what had been the Bureau's work as they may find means and opportunity. He thought it advisable to place the Volta Fund in the hands of a trust company under a contract as to the use of the dividends of the trust. He would like to have the American Association to Promote the Teaching of Speech to the Deaf have and use the Volta Bureau as its home. This is placing the larger institution in the hands of the smaller one, but the Association is incorporated and is competent, and,

he is sure, will do all he desires done in a satisfactory manner. Dr. Bell said the matter of placing the Volta fund demands immediate attention. When that fund has been placed to the credit of the Association, as he plans, the property and vested funds of the Association will be, or will approximate as follows:

General fund.....	\$45,496.25
Sinking fund.....	33,453.14
Real estate.....	42,500.00

\$121,449.39

Dr. Bell suggested that the Speech Association simply absorb the Volta Bureau funds in the hands of a trust company, from which it would receive the full proceeds of its investment and then turn back into the hands of the trust company one-half of these proceeds to be invested by it as increase of the capital; the other half to be expended in such manner as the Board saw fit, the donor placing upon the Board no restrictions as to the manner of its expenditure.

IV. THE VOLTA BUREAU; ITS LIBRARY AND OFFICES

Before 1890 it was perceived that the publications received by the Volta Bureau were accumulating so rapidly that the quarters then occupied at 3414 Q street (now Volta Place) were inadequate, and that much additional stack room would have to be secured if the collection was to be available to students in research work. It was also perceived that the Volta Laboratory was not a suitable or a safe place in which to house so valuable a collection of literature and statistics relating to the deaf, for the building was only a cheaply constructed two-story brick structure. So Dr. Bell suggested securing plans for the erection of a small fireproof building, having a number of stack rooms in which the permanent preservation of the material could be assured. John Hitz requested Peabody & Stearns, of Boston, to prepare the plans, which he received in September, 1892.

The plans presented were for a building similar to but somewhat more architecturally ornate than the one now occupied. As the cost of construction was estimated to be double what he had expected to pay, Dr. Bell strongly objected to drawing so heavily upon the Volta Fund for so ornate a structure; for, in



THE VOLTA BUREAU AS ORIGINALLY DESIGNED

his opinion, that fund might be used to better purpose.

However, John Hitz won Prof. Melville Bell's approval of a modification of the plans, and together they succeeded in winning Dr. Bell's consent, but only on condition that the entire cost of erecting and equipping should come from some other source than the Volta Fund. So a building fund was started, to which Dr. Bell contributed \$25,000; his father gave \$15,000, and John Hitz gave a portion of his services in the sense that during the remainder of his life he accepted a lower salary than would otherwise have come to him. Referring to this gift, Dr. Bell says: "The Volta Bureau building was the creation of John Hitz. It would hardly be possible to get any one else in the country to do the really great work he did at \$160 a month for himself and an assistant."

Meanwhile, there was purchased three lots having a frontage of 60 feet on 35th

street and 139 feet on Q street (later renamed Volta Place), and almost directly across the street from the Volta Laboratory.

On Thursday noon, April 27, 1893, in the presence of the architect and the contractor, Prof. A. Melville Bell, Dr. Alexander Graham Bell, Dr. J. C. Gordon, Dr. Z. F. Westervelt, and John Hitz, the contracts for the construction of the Volta Bureau building now occupied were signed; the color of the bricks to be used, the exact location for the building in the lot purchased, and other details were decided.

At 4 o'clock in the afternoon of May 8, 1893, the ground was formally broken for the construction of the new building, when Helen Keller turned the first sod, followed by Elsie May Bell, Marian Hubbard Bell, and others, amid the applause of relatives and friends. Among those present on this occasion were: Helen Keller and her teacher, Miss Annie M.

Sullivan (now Mrs. Macy), Dr. J. C. Gordon, Professor and Mrs. A. Melville Bell, Mr. and Mrs. David Bell, Dr. and Mrs. Alexander Graham Bell and their daughters, Elsie and Marian Bell, Miss Mary Symonds, Miss Laura Symonds, Mrs. Hood, Bessie Appleby, W. A. Mills, John Hitz, Mary I. Barton, A. W. McCurdy, Douglas McCurdy, C. W. Ellis, Bertha Ellis, Roland Ellis, and others.

Owing to various delays, due partly on account of the financial stress that involved the entire country in 1893-1894, materially reducing incomes on many investments, the actual work of erecting the building did not commence until late in September, 1893, and a year elapsed before it was ready for occupancy.

Under date of Monday, October 8, 1894, John Hitz made this notation: "Entered upon my first day's work in the new building of the Volta Bureau," and he adds that the first visitor to enter the building called to make inquiries about the census of the deaf.

The accompanying reproduction of a photograph shows the building as it appears today. Yet no illustration can do justice to the exquisite proportions and architectural attractiveness of the structure itself, marred as it is by its terraced setting. And it is this indefinable atmosphere of artistic lines that appeals to many visitors the longer its harmonious classical design is studied.

The library section of the building, separated from the main portion by a 12-inch fire-wall, has but one entrance,

with steel vault doors that open into the librarian's room, and are locked every evening. The iron stairway leading from one stack floor to another is circular in form; cast-iron floor plates are used in the second and third floor stack rooms, while a fine quality of flagging is used for flooring the lower room. There are ten stacks each on the first and second floors, but no stacks on the third floor. These stacks are of cast iron, and the only inflammable material in the library, aside from books and pamphlets, is the pine shelving used in the iron stacks (to be replaced with iron or steel shelving), the card index and filing cases, and the window frames and casings. Except two that are iron-barred, all the library windows have iron shutters.

There is an abundance of daylight in the stack rooms except on cloudy days, but there is no artificial means of lighting; thus the contents are not conveniently available after dark. However, as the Bureau is open to visitors only from 9 a. m. to 4 p. m., this absence of artificial illumination is not a serious drawback at present. The other rooms are electrically illuminated.

The contents of these stack rooms, taken as a whole, form a library of specialized literature of inestimable value, and one that should be intelligently treasured and rendered available to every interested seeker after knowledge concerning any problem relating to deafness, its causes, and its amelioration.



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